Rocky Flats Environmental Technology Site

TYPE 1
RECONNAISSANCE LEVEL CHARACTERIZATION REPORT (RLCR)

BUILDING 519 CLOSURE PROJECT

REVISION 0

February 7, 2003

CLASSIFICATION REVIEW NOT REQUIRED PER
EXEMPTION NUMBER CEX-005-02

1/40

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REVISION 0

February 7, 2003

Reviewed by: _____ Date: 2/6/03
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ATTACHMENTS

ABBREVIATIONS/ACRONYMS

ACM	Asbestos containing material
Be	Beryllium
CDPHE	Colorado Department of Public Health and the Environment
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act
$DCGL_{EMC}$	Derived Concentration Guideline Level – elevated measurement comparison
$DCGL_W$	Derived Concentration Guideline Level – Wilcoxon Rank Sum Test
D&D	Decontamination and Decommissioning
DDCP	Decontamination and Decommissioning Characterization Protocol
DOE	U.S. Department of Energy
DPP	Decommissioning Program Plan
DQA	Data quality assessment
DQOs	Data quality objectives
EPA	U.S. Environmental Protection Agency
FDPM	Facility Disposition Program Manual
HVAC	Heating, ventilation, air conditioning
HSAR	Historical Site Assessment Report
IHSS	Individual Hazardous Substance Site
IWCP	Integrated Work Control Package
K-H	Kaiser-Hill
LBP	Lead-based paint
LLW	Low-level waste
MARSSIM	Multi-Agency Radiation Survey and Site Investigation Manual
MDA	Minimum detectable activity
MDC	Minimum detectable concentration
NORM	Naturally occurring radioactive material
NRA	Non-Rad-Added Verification
OSHA	Occupational Safety and Health Administration
PARCC	Precision, accuracy, representativeness, comparability and completeness
PCBs	Polychlorinated Biphenyls
PDS	Pre-demolition survey
QC	Quality Control
RCRA	Resource Conservation and Recovery Act
RFCA	Rocky Flats Cleanup Agreement
RFETS	Rocky Flats Environmental Technology Site
RFFO	Rocky Flats Field Office
RLC	Reconnaissance Level Characterization
RLCR	Reconnaissance Level Characterization Report
RSP	Radiological Safety Practices
SVOCs	Semi-volatile organic compounds
TCLP	Toxicity Characteristic Leaching Procedure
TSA	Total surface activity
VOCs	Volatile organic compounds

EXECUTIVE SUMMARY

A Reconnaissance Level Characterization (RLC) was performed to enable facility "Typing" per the DPP (10/8/98) and compliant disposition and waste management of Building 519. Because this facility was anticipated to be a Type 1 facility, the characterization was performed in accordance with the Pre-Demolition Survey Plan (MAN-127-PDSP). All facility surfaces were characterized in this RLC, including the interior and exterior surfaces (i.e., floor, walls, ceiling and roof). Environmental media beneath and surrounding the facility was not within the scope of this RLCR and will be addressed at a future date using the Soil Disturbance Permit process and in compliance with RFCA.

The RLC encompassed both radiological and chemical characterization to enable compliant disposition and waste management pursuant to the D&D Characterization Protocol (MAN-077-DDCP). The characterization built upon physical, chemical and radiological hazards identified in the facility-specific Historical Site Assessment Report.

Results indicate that no radiological contamination exists in excess of the PDSP unrestricted release limits of DOE Order 5400.5. All beryllium sample results were less than 0.1 $\mu g/100cm^2$. Bulk samples of building materials suspected of containing non-friable asbestos were positive (> 1% by volume). All asbestos containing materials will be managed and disposed of in compliance with Environmental Protection Agency (EPA) and Colorado Department of Public Health and Environment (CDPHE) regulations. All demolition debris will be managed in compliance with regulations governing PCBs (40 CFR 761), and Environmental Compliance Guidance #27, *Lead-Based Paint (LBP) and Lead-Based Paint Debris Disposal,* as applicable.

Based upon data presented in this RLCR, Building 519 is considered a Type 1 facility. To ensure the facility remains free of contamination and that RLC data remain valid, isolation controls have been established, and the facility has been posted accordingly.

1 INTRODUCTION

A Reconnaissance Level Characterization (RLC) was performed to enable compliant disposition and waste management of Building 519. Because this facility was an anticipated Type 1 facility, a PDS characterization was performed. All facility surfaces were characterized in this RLC, including the interior and exterior surfaces of the facility (i.e., floor, walls, ceiling and roof). Environmental media beneath and surrounding the facility was not within the scope of this RLC Report (RLCR) and will be addressed at a future date using the Soil Disturbance Permit process and in compliance with RFCA.

As part of the Rocky Flats Environmental Technology Site (RFETS) Closure Project, numerous facilities will be removed, among these is Building 519. The location of this facility is shown in Attachment A. This facility no longer supports the RFETS mission and needs to be removed to reduce Site infrastructure, risks and/or operating costs.

Before the facility can be removed, a Pre-Demolition Survey (PDS) must be conducted; this document presents the PDS results. The PDS was conducted pursuant to the Decontamination and Decommissioning Characterization Protocol (MAN-077-DDCP) and the Pre-Demolition Survey Plan for D&D Facilities (MAN-127-PDSP). The PDS built upon physical, chemical and radiological hazards identified in the facility-specific Historical Site Assessment Report.

1.1 Purpose

The purpose of this report is to communicate and document the results of the PDS effort. PDSs are performed before building demolition to define the pre-demolition radiological and chemical conditions of a facility. Pre-demolition conditions are compared with the unrestricted release limits for radiological and non-radiological contaminants. PDS results will enable project personnel to make final disposition decisions, develop related worker health and safety controls, and estimate waste volumes by waste types.

1.2 Scope

This report presents the pre-demolition radiological and chemical conditions of Building 519. Environmental media beneath and surrounding the facility is not within the scope of this RLCR and will be addressed using the Soil Disturbance Permit process and in compliance with RFCA.

1.3 Data Quality Objectives

The Data Quality Objectives (DQOs) used in designing this RLC were the same DQOs identified in the Pre-Demolition survey Plan for D&D Facilities (MAN-127-PDSP.) Refer to section 2.0 of MAN-127-PDSP for these DQOs.

2 HISTORICAL SITE ASSESSMENT

A facility-specific Historical Site Assessment (HSA) was conducted to understand the facility history and related hazards. The assessment consisted of facility walkdowns, interviews, and document review, including review of the Historical Release Report (refer to the D&D Characterization Protocol, MAN-077-DDCP). These assessments were used to identify data gaps and needs, and to develop radiological and chemical characterization packages. The facility-specific HSA was documented in a Historical Site Assessment Report (HSAR). Refer to Attachment B for a copy of the Building 519 HSAR. In summary, the HSAR identified no potential for radiological and chemical hazards, except the potential for asbestos containing materials and PCBs in paint and light ballast.

3 RADIOLOGICAL CHARACTERIZATION AND HAZARDS

Building 519 was characterized for radiological hazards per the PDSP. Radiological characterization was performed to define the nature and extent of radioactive materials that may be present on the facility surfaces. Measurements were performed to evaluate the contaminants of concern. Based upon a review of historical and process knowledge, building walk-downs, and MARSSIM guidance, a Radiological Characterization Plan was developed during the planning phase that describe the minimum survey requirements (refer to the RISS Characterization Project files).

One radiological survey package was developed for the interior and exterior of Building 519. The survey package was developed in accordance with Radiological Safety Practices (RSP) 16.01, *Radiological Survey/Sampling Package Design, Preparation, Control, Implementation and Closure*. Total surface activity (TSA), removable surface activity (RSA), and scan measurements were collected in accordance with RSP 16.02 *Radiological Surveys of Surfaces and Structures*. Radiological survey data were verified, validated and evaluated in accordance with RSP 16.04, *Radiological Survey/Sample Data Analysis*. Quality control measures were implemented relative to the survey process in accordance with RSP 16.05, *Radiological Survey/Sample Quality Control*.

Twenty-seven (27) TSA measurements (15 random, 10 biased and 2 QC) and twenty-five (35) RSA measurements (15 random and 20 biased) were performed, and a minimum of 5% of the facility surfaces were scanned on the interior and exterior of the facility. The RLC data confirmed that the facility does not contain radiological contamination above the surface contamination guidelines provided in the PDSP. Radiological survey data, statistical analysis results, and survey locations are presented in Attachment C, Radiological Data Summary and Survey Maps. The radiological survey unit package is maintained in the RISS Characterization Project files. Isolation control postings are displayed on the building to ensure no radioactive materials are introduced.

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4 CHEMICAL CHARACTERIZATION AND HAZARDS

Building 519 was characterized for chemical hazards per the PDSP. Chemical characterization was performed to determine the nature and extent of chemical contamination that may be present on or in the facility. Based upon a review of historical and process knowledge, visual inspections, and PDSP DQOs, additional sampling needs were determined. A Chemical Characterization Plan (refer to RISS Characterization Project files) was developed during the planning phase that describe sampling requirements and the justification for the sample locations and estimated sample numbers. Contaminants of concern included asbestos, beryllium, RCRA/CERCLA constituents, and PCBs. Refer to Attachment D, Chemical Data Summaries and Sample Maps, for details on sample results and sample locations.

4.1 Asbestos

Building 519 is a welded steel frame facility with asbestos-containing corrugated Transite panels attached to the frame with bolts and C-clamps. An inspection and sampling of other building materials suspected of containing asbestos was conducted in accordance with the PDSP. A CDPHE-certified asbestos inspector conducted the inspection and sampling in accordance with the *Asbestos Characterization Protocol, PRO-563-ACPR, Revision 1.* Building materials suspected of containing asbestos were identified for sampling at the discretion of the inspector. Non-friable exterior and interior window caulking, and exterior and interior seam caulking between the Transite panels was positive for asbestos (> 1% by volume).

The corrugated Transite panels were not sampled for asbestos content, but are assumed asbestos containing material based upon known product composition. All bulk samples of building materials suspected of containing non-friable asbestos were positive (> 1% by volume). Asbestos laboratory analysis data and sample location maps are contained in Attachment D, Chemical Data Summaries and Sample Maps.

4.2 Beryllium (Be)

Based on the HSAR and personnel interviews, Building 519 was an anticipated Type 1 facility. There was not, however, adequate historical and process knowledge to conclude that beryllium was not used or stored in this building. Therefore, biased beryllium sampling was performed in accordance with the PDSP and the *Beryllium Characterization Procedure, PRO-536-BCPR, Revision 0, September 9, 1999.* Biased sample locations corresponded with the most probable areas of dust accumulation (including beryllium dust), assuming airborne deposition.

All beryllium smear sample results were less than 0.1 $\mu g/100cm^2$ and meet the unrestricted release limits. Beryllium laboratory sample data and location maps are contained in Attachment D, Chemical Data Summaries and Sample Maps.

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4.3 RCRA/CERCLA Constituents [including metals and volatile organic compounds (VOCs)]

Based on a review of the HSAR and a facility walkdown, the only RCRA/CERCLA concern in Building 519 would be the chlorinated solvents stored in the 90-day unit that was active between April and July of 1995. There is no evidence that waste stored in this unit impacted the building, therefore, RCRA/CERCLA constituent sampling was not performed in this facility as part of the RLC.

Sampling for lead in paint in Building 519 was not performed. Environmental Waste Compliance Guidance #27, *Lead-based Paint (LBP) and Lead-based paint Debris Disposal*, states that LBP debris generated outside of currently identified high contamination areas shall be managed as non-hazardous (solid) wastes, and additional analysis for characteristics of hazardous waste derived from LBP is not a requirement for disposal. There have been no high contamination areas in Building 519.

Building 519 may contain RCRA regulated materials such as fluorescent lights and leaded glass. A thorough inspection of the facility will be made, and all regulated materials will be removed, prior to demolition.

4.4 Polychlorinated Biphenyls (PCBs)

Based on the HSARs, interviews and facility walkdowns of Building 519, no PCB-containing equipment was ever present in the building, making the potential for PCB contamination resulting from spills highly unlikely. Therefore, PCB sampling was not performed in Building 519 as part of this RLC.

Based on the age of Building 519 (constructed prior to 1980), paints used may contain PCBs, and painted surfaces will need to be disposed of as PCB Bulk Product Waste. Because Building 519 may contain fluorescent light ballast containing PCBs, fluorescent light fixtures will be inspected to identify PCB ballast during removal operations. PCB ballast will be identified based on factors such as labeling (e.g., PCB-containing and non-PCB-containing), manufacturer, and date of manufacturing. Ballast that do not indicate non-PCB-containing is assumed to be PCB-containing. Ballast that are identified as PCB containing and are leaking will be removed prior to demolition. Non leaking PCB ballast can remain in the building and be disposed of as PCB Bulk Product Waste.

5 PHYSICAL HAZARDS

Physical hazards associated with Building 519 consist of those common to standard industrial environments and include hazards associated with energized systems, utilities, and trips and falls. The facility has been relatively well maintained and is in good physical condition, and therefore, does not present hazards associated with building deterioration. Physical hazards are controlled by the Site Occupational Safety and Industrial Hygiene Program, which is based on OSHA regulations, DOE orders, and standard industry practices.

6 DATA QUALITY ASSESSMENT

Data used in making management decisions for decommissioning of Building 519, and consequent waste management, are of adequate quality to support the decisions documented in this report. The data presented in this report (Attachments C and D) were verified and validated relative to DOE quality requirements, applicable EPA guidance, and original DQOs of the project.

In summary, the Verification and Validation (V&V) process corroborates that the following elements of the characterization process are adequate:

- the *number* of samples and surveys;
- the *types* of samples and surveys;
- the sampling/survey process as implemented "in the field"; and,
- the laboratory analytical process, relative to accuracy and precision considerations.

Details of the DQA are provided in Attachment E.

7 DECOMMISSIONING WASTE TYPES AND VOLUME ESTIMATES

The demolition and disposal of Building 519 will generate a variety of wastes. Estimated waste types and waste volumes are presented below. All wastes can be disposed of as sanitary waste, except asbestos containing material and PCB Bulk Product Waste. There is no radioactive or hazardous waste. Asbestos and PCB ballast will be managed pursuant to Site asbestos and PCB abatement and waste management procedures.

Waste Volume Estimates and Material Types, Building 519

Facility	Concrete (cu ft)	Wood (cu ft)	Metal (cu ft)	Corrugated Sheet Metal (cu ft)	Wall Board (cu ft)	ACM (cu ft)	Other Waste
Building 519	0	50	50	0	0	820	None

8 FACILITY CLASSIFICATION AND CONCLUSIONS

Based on the analysis of radiological, chemical and physical hazards, Building 519 is classified as a RFCA Type 1 facility pursuant to the RFETS Decommissioning Program Plan (DPP; K-H, 1999). The Type 1 classification is based on a review of historical and process knowledge, and newly acquired RLC data.

The RLC of Building 519 was performed in accordance with the DDCP and PDSP requirements. All PDSP DQOs were met, and all data satisfied the PDSP DQA criteria. Building 519 does not contain radiological or hazardous wastes. Any PCB ballast and asbestos containing materials will be managed and disposed of in compliance with Environmental Protection Agency (EPA) and Colorado Department of Public Health and Environment (CDPHE) regulations. All demolition debris will be managed in compliance with regulations governing PCBs (40 CFR 761), and Environmental Compliance Guidance #27, *Lead-Based Paint (LBP) and Lead-Based Paint Debris Disposal,* as applicable. Environmental media beneath and surrounding the facility will be addressed at a future date using the Soil Disturbance Permit process and in compliance with RFCA.

To ensure that Building 519 (Type 1 facility) remains free of contamination and that RLC data remain valid, Level 2 isolation controls have been established with the required postings.

9 REFERENCES

DOE/RFFO, CDPHE, EPA, 1996. *Rocky Flats Cleanup Agreement (RFCA),* July 19, 1996.

DOE Order 5400.5, *"Radiation Protection of the Public and the Environment."*

EPA, 1994. *"The Data Quality Objective Process,"* EPA QA/G-4.

K-H, 1999. *Decommissioning Program Plan,* June 21, 1999.

MAN-131-QAPM, *Kaiser-Hill Team Quality Assurance Program,* Rev. 1, November 1, 2001.

MAN-076-FDPM, *Facility Disposition Program Manual,* Rev. 3, January 1, 2002.

MAN-077-DDCP, *Decontamination and Decommissioning Characterization Protocol,* Rev. 3, July 15, 2002.

MAN-127-PDSP, *Pre-Demolition Survey Plan for D&D Facilities,* Rev. 1, July 15, 2002.

MARSSIM - *Multi-Agency Radiation Survey and Site Investigation Manual,* December 1997 (NUREG-1575, EPA 402-R-97-016).

PRO-475-RSP-16.01, *Radiological Survey/Sampling Package Design, Preparation, Control, Implementation, and Closure,* Rev. 1, May 22, 2001.

PRO-476-RSP-16.02, *Pre-Demolition (Final Status) Radiological Surveys of Surfaces and Structures,* Rev. 1, May 22, 2001.

PRO-477-RSP-16.03, *Radiological Samples of Building Media,* Rev. 1, May 22, 2001.

PRO-478-RSP-16.04, *Radiological Survey/Sample Data Analysis for Final Status Survey,* Rev. 1, May 22, 2001.

PRO-479-RSP-16.05, *Radiological Survey/Sample Quality Control for Final Status Survey,* Rev. 1, May 22, 2001.

PRO-563-ACPR, *Asbestos Characterization Procedure,* Revision 0, August 24, 1999.

PRO-536-BCPR, *Beryllium Characterization Procedure,* Revision 0, August 24, 1999.

RFETS, *Environmental Waste Compliance Guidance #25, Management of Polychlorinated Biphenyls (PCBs) in Paint and Other Bulk Product Waste During Facility Disposition.*

RFETS, *Environmental Waste Compliance Guidance #27, Lead-Based Paint (LBP) and Lead-Based Paint Debris Disposal.*

RFCA Standard Operation Protocol for Recycling Concrete, September 28, 1999.

Historical Site Assessment Report for Area 4 Group 1 Facilities, dated, July, 2002, Revision 0.

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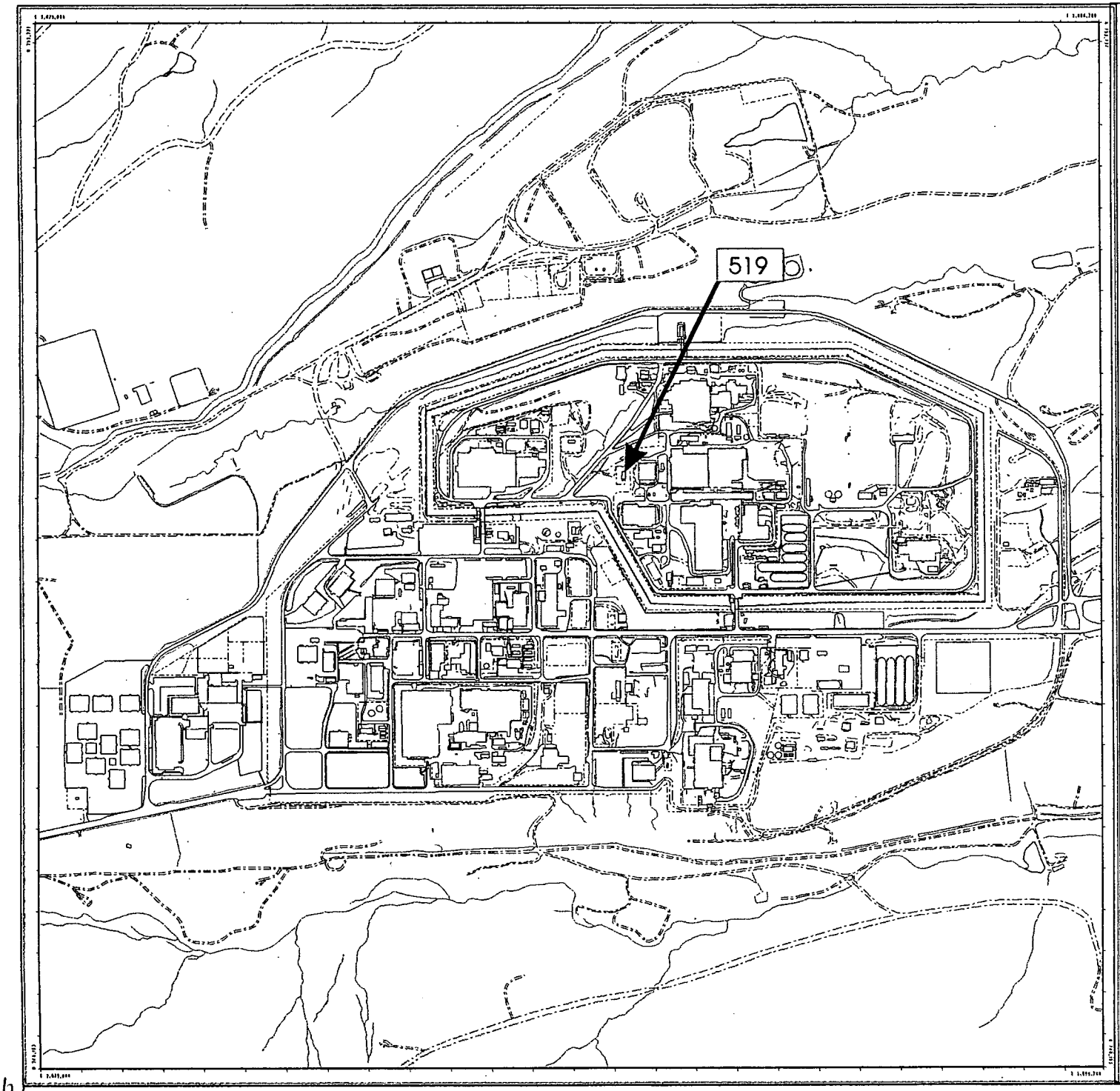
ATTACHMENT A

Facility Location Map



Building 519

Standard Map Features

- Buildings and other structures
- Lakes and ponds
- Streams, ditches, or other drainage features
- Fences and other barriers
- Paved roads
- Dirt roads

DATA SOURCE BASE FEATURES:
Buildings, fences, hydrography, roads and other structures from 1994 aerial fly-over data captured by EG&G RSL, Las Vegas.
Digitized from the orthophotographs. 1/95

Scale = 1 : 12450
1 inch represents approximately 1038 feet

250 0 500 1000ft

State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

GIS Dept. 303-966-7707

Prepared by:
DynCorp
THE ART OF TECHNOLOGY

Prepared for:
KAISER-HILL COMPANY

MAP ID: FY 2003

February 5, 2003

NT_Svr w:/projects/fy2002/03-0067/overview_519.cdr

ATTACHMENT B

Historical Site Assessment Report

D&D RISS Facility Characterization
Historical Site Assessment Report
July, 2002 Rev. 0

Facility ID: (Group- 4 Area 1) - Buildings 519, 557, 566B, 710, 760B, and 869.
Anticipated Facility Type (1, 2, or 3): Buildings 519, 557, 566B, 710, 760B, and 869 are anticipated Type 1 facilities.

This facility-specific Historical Site Assessment (HSA) has been performed in accordance with:
D&D Characterization Protocol, RFETS MAN-077-DDCP, latest version, and
Facility Disposition Program Manual, RFETS MAN-076-FDPM, latest version

Physical Description

Building 519

Building 519 is a 1020 sq. ft. Alarm Maintenance Storage Building constructed in the mid 1970s. This facility is a steel frame structure with fiberboard (possibly asbestos) walls and roof. The floor is constructed with plywood. The facility has a large panel of windows on the south side of the structure.

Building 519 has no utilities, however the building did have a temporary power connection in the early 1990s.

Building 557

Building 557 is a 310 sq. ft. Guard Post located east of Building 559. Building 557 was constructed in 1968 and is a reinforced concrete structure with concrete walls and an insulated lightweight concrete roof. Building 557 has viewing windows on the east side of the structure and the main entrance is on the east side of the building.

Building 557 has the following utilities; electric, plant water and fire protection is provided by wall-mounted fire extinguishers.

Building 566B

Building 566B is a 540 sq. ft carpentry shed located east of Building 566. Building 566 was constructed in 1977 and consists of two cargo containers spaced approximately 20 feet apart with a roof constructed over the two cargo containers. The space between the cargo containers is enclosed to from the shed. The east and west walls of the building are the sides of the cargo containers and the north and south walls are constructed of wood. The roof is constructed with wooden trusses and is covered with asphalt shingles. The floor is a concrete pad.

Building 566B has no utilities. When power is needed, a temporary connection (extension cord) is made to Building 556

Building 710

Building 710 is a 200 sq. ft. Steam Valve House located north of Building 776. Building 710 was constructed in 1965 and has insulated sheet metal walls and roof mounted to a metal frame. The building was constructed on a concrete pad.

Building 710 has the following utilities; electric, plant stream, and fire protection is provided by wall-mounted fire extinguishers.

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Building 869

B869, also known as the Gas Meter House, was constructed in 1953. This building is approximately 420 square feet and consists of a concrete main structure and a metal addition attached to the north side of the building, which was constructed in 1971. This addition was installed to house the new odorizer (adds odor to the natural gas). The odorizer has been inactive since the early 1980s. There is an underground gas line heater located west of the main building. The gas-fired underground heated has been inactive since the 1980s. The main building is constructed of concrete walls and roof. The structure is built on a 3 foot thick concrete pad. Both entries have metal stairs leading to the doors.

Tank 030 is a condensate tank for the gas pipeline and is located in a vault approximately 10 feet south of B869. The vault extends approximately 3 ft below grade. The vault is constructed of concrete wall, a dirt floor and two steel lids to control access.

Building 869 has the following utilities; electric and fire protection is provided by wall mounted fire extinguishers.

Historical Operations

Building 519

Building 519 is used as an Alarm Maintenance Storage Building that supports the Alarm Maintenance Group. Since the late 1970s, Building 519 has been used to store spare parts and equipment for the Alarm Maintenance Group. During the mid 1970s the building was used as a storage building by the Building 771 Maintenance Department. This building has no history of radiological or hazardous operation. However, small quantities of cutting oil and hydraulic fluids may have been stored here in the past. Some of the instruments stored in Building 519 had lead shielding, but this equipment has been removed. Building 519 has been partially cleaned out.

Building 557

Building 557 is a Guard Post that was used to monitor vehicles and personnel entering the Building 559 and Building 707 restricted area. This guard post was operational during the 1969 776 fire and the area around the Guard Post was used to as a Fire response staging area. This building is located within IHSS 500-150.2 " Radioactive site west of Building 771and 776", which documents the 1969 fire. Building 557 never housed any radiological or hazardous operations.

Building 566B

Building 556B is the Carpenter Shop that supported Building 776 operations. This building housed general carpentry supplies, as well as saws, sanders and drills. This shop made things such as shipping crate, custom pallets for shipping equipment and other miscellaneous carpentry work. Building 566B never housed any radiological or hazardous operations.

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Building 710

Building 710 is a valve house for the controlling the steam for Buildings 776 and 771. Recently the steam line to Building 776 has been isolated. During the 1969 fire, the steam pipe chase between Building 710 and 776 was contaminated. Low levels of contamination may have entered Building 710. Currently there are no radiological posting or fixed contamination labels in Building 710. Building 710 never housed any radiological or hazardous operations.

Building 869

Building 869 (Gas Meter House) is the reducing station for the main gas line entering the plant. Building 869 houses miscellaneous piping and valves used to reduce the pressure and distribute the gas throughout the site. Building 869 has always been used as a gas reducing station and had never housed any radiological or hazardous operations.

Current Operational Status

Building 519, 557, 556B, 710, and 869 are all currently active.

Contaminants of Concern

Asbestos

Describe any potential, likely, or known sources of Asbestos:

None of the building in this HSA have asbestos postings. None of the facilities in this HSA have had a comprehensive asbestos survey.

Beryllium (Be)

Describe any potential, likely, or known Be production or storage locations:

None of the building addressed in this HSA are on the List of known Be Areas.

Summarize any recent Be sampling results:

No resent Be samples collected on any of these facilities.

Lead

Describe any potential, likely, or known sources of Lead (e.g., paint, shielding, etc.):

Lead in paint and lead in electrical equipment may be a concern for some of these facilities due to the age of construction. Some of the alarm equipment stored in Building 519 may have had lead shielding. This equipment has been removed during building clean-out activities.

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RCRA/CERCLA Constituents

Describe any potential, likely, or known sources of RCRA/CERCLA constituents (e.g., chemical storage, waste storage, and processes):

None of the facilities in this HSA were used as a RCRA/CERCLA storage facility. The only chemicals used in these facilities were general cleaning supplies and small quantities of oils and lubricants. On occasion Building 556B stored small quantities of paint.

See the "Environmental Concerns" section below for IHSSs and PACs associated with these buildings.

Describe any potential, likely, or known spill locations (and sources, if any):

No known spills.

Describe methods in which spills were mitigated, if any:

No known spills.

PCBs

Describe any potential, likely, or known sources of PCBs (e.g., light ballasts, paints, equipment, etc.):

Due to the age of some of these facilities, there may be a concern with PCBs in paint, light ballasts, and electrical equipment. No PCBs operation when housed in any of these facilities.

Describe any potential, likely, or known spill locations (and sources, if any):

No PCB spills occurred in any of the facilities addressed in this HSA.

Describe methods in which spills were mitigated, if any:

No PCB spills occurred in any of the facilities addressed in this HSA.

Radiological Contaminants

Describe any potential, likely, or known radiological production or storage locations:

None of the buildings in this HSA are radiologically posted. None of the Building in this HSA housed any radiological operations. Building 519 stored used alarm equipment (SAMs, CAMs, etc.) for the Site Alarm Maintenance Group. Some of these alarms had a potential to be internally contaminated, however there is no evidence of any building contamination related to this activity.

Building 557 did not house any radiological operations. However, interviews indicate that the area around Building 557 was used as a fire response area during the 1969 Building 776 fire. Low levels of contamination may have been tracked into the building during response activities. Any contamination in Building 557 would be very low levels, which where not detected by the survey instruments used in 1969. Building 710 did not house any radiological operation, however the steam line pipe chase between Building 776 and 710 was contaminated during the 1969 fire. Low levels of contamination may be found on the floor of Building 710, which were not detectable by the survey instruments, used in 1969.

See the "Environmental Concerns" section below for IHSSs and PACs associated with these buildings.

Describe any potential, likely, or known spill locations (e.g., known leaking sealed radioactive sources, leaking waste drums, potentially contaminated drains, etc.):

No known Spills (except as noted above).

Describe methods in which spills were mitigated, If any:

No known Spills.

Describe any potential, likely, or known isotopes of concern (e.g., weapons grade plutonium, uranium isotopes, pure beta emitters, mixed fission products, etc.):

The primary Isotope of concern includes, but is not limited to plutonium. There were no mixed fission products or pure beta emitters used in any of the facilities addressed in this HSA.

Describe any potential, likely, or known external facility contamination (e.g., stack release points, unfiltered ventilation, facility's physical location to known site releases, etc.):

See section below for information on IHSSs PACs, and UBCs.

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Environmental Restoration Concerns

Describe any ER concerns that could affect facility characterization (e.g., IHSSs, PACs, UBCs):

Building 566B is associated with or located near the following active IHSSs, PACs, and UBCs;

1) IHSS 700-150.2 " Radioactive site west of Building 771and 776", Active.

Building 557 is associated with or located near the following active IHSSs, PACs, and UBCs;

1) PAC 000-162 "Radioactive Site – 700 Area #2", Active.

Building 710 is associated with or located near the following active IHSSs, PACs, and UBCs;

1) PAC 700-131 "Radioactive Site – 700 Area #1", Active.

Buildings 519 and 869 are not associated with or located near any IHSSs, PACs, and UBCs

Additional Information

Describe any additional information that may be useful during facility characterization (e.g., contaminant migration routes, waste handling operations, physical hazards, Historical Release Reports, WSRIC data, etc.):

None

References

Provide all sources of information utilized to gather data for facility history (e.g., documents, files, interviews):

Sources reviewed to complete this HSA were the RFETS Facility List, the Historical Release Report, Site Master List of RCRA Units, and the Site IHSS, PAC, and UBC databases. None of the Buildings in this HSA have a WSRIC. In addition, a facility walkdown and interviews were performed.

Waste Volume Estimates and Material Types

Facility	Concrete (cu ft)	Wood (cu ft)	Metal (cu ft)	Corrugated Sheet Metal (cu ft)	Wall Board (cu ft)	ACM (cu ft)	Other Waste (cu ft)
Building 519	0	50	50	0	0	TBD	Fiberboard (possibly asbestos) 700
Building 557	600	0	50	0	100	TBD	N/A
Building 566B	200	350	0	0	0	TBD	N/A
Building 710	200	0	300	300	0	TBD	N/A
Building 869	1000	0	50	100	0	TBD	N/A

Further Actions

Recommend any further actions, if any (e.g., characterization, decontamination, special handling, etc.):

Begin the RLC/PDS process.

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Note:
This HSA was performed prior to SME walkdowns, and chemical and radiological characterization package preparations. SMEs should evaluate and/or verify all information during the RLC/PDS process. SMEs may need to review additional documentation and perform additional interviews. Information contained in this HSA only represents a "snapshot" in time. Subsequent data may be obtained during SME walkdowns and chemical and radiological characterization package preparations, which may conflict with this report. However, this report will not be amended, and the newer data will take precedence over the data in this report. Newer Data will appear in the RLCR/PDSR.

Prepared By:	Doug Bryant	/s/	July 2002
	Name	Signature	Date

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ATTACHMENT C

Radiological Data Summaries and Survey Maps

SURVEY UNIT 519-A-001
RADIOLOGICAL DATA SUMMARY - PDS

Survey Unit Description: B519 (Interior and Exterior)

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Survey Unit 519-A-001
PDS Data Summary

Total Surface Activity Measurements

	25 Number Required	25 Number Obtained	
MIN	-7.8		dpm/100 cm^2
MAX	96.3		dpm/100 cm^2
MEAN	22.8		dpm/100 cm^2
STD DEV	27.1		dpm/100 cm^2
TRANSURANIC $DCGL_W$	100		dpm/100 cm^2

Removable Activity Measurements

	25 Number Required	25 Number Obtained	
MIN	-0.6		dpm/100 cm^2
MAX	1.2		dpm/100 cm^2
MEAN	0.0		dpm/100 cm^2
STD DEV	0.6		dpm/100 cm^2
TRANSURANIC $DCGL_W$	20		dpm/100 cm^2

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SURVEY UNIT T11-B-004
TSA - DATA SUMMARY

Manufacturer:	NE Tech	NE Tech
Model:	DP-6	DP-6
Instrument ID#:	1	2
Serial #:	2344	1366
Cal Due Date:	7/16/03	6/26/03
Analysis Date:	1/28/03	1/28/03
Alpha Eff. (c/d):	0.224	0.219
Alpha Bkgd (cpm)	2.0	0.7
Sample Time (min)	1.5	1.5
LAB Time (min)	1.5	1.5
MDC (dpm/100cm^2)	48.0	48.0

Sample Location Number	Instrument ID#:	Sample Gross Counts (cpm)	Sample Gross Activity (dpm/100cm2)	LAB Gross Counts (cpm)	LAB Gross Activity (dpm/100cm2)	Sample Net Activity (dpm/100cm2)[1,2]
1	1	6.0	26.8	6.7	29.9	7.0
2	1	16.0	71.4	4.7	21.0	51.6
3	1	6.7	29.9	3.3	14.7	10.1
4	1	26.0	116.1	4.0	17.9	96.3
5	1	3.3	14.7	5.3	23.7	-5.1
6	1	2.7	12.1	3.3	14.7	-7.8
7	1	6.7	29.9	6.7	29.9	10.1
8	1	16.0	71.4	4.7	21.0	51.6
9	1	9.3	41.5	6.7	29.9	21.7
10	1	4.7	21.0	6.7	29.9	1.2
11	1	20.7	92.4	5.3	23.7	72.6
12	1	6.7	29.9	3.3	14.7	10.1
13	1	18.7	83.5	4.0	17.9	63.7
14	1	17.3	77.2	4.0	17.9	57.4
15	1	6.7	29.9	2.7	12.1	10.1
16	1	8.0	35.7	5.3	23.7	15.9
17	1	6.0	26.8	3.3	14.7	7.0
18	1	10.0	44.6	3.3	14.7	24.8
19	1	10.0	44.6	7.8	34.8	24.8
20	1	7.3	32.6	5.3	23.7	12.8
21	1	8.7	38.8	5.3	23.7	19.0
22	1	8.7	38.8	1.3	5.8	19.0
23	1	3.3	14.7	2.0	8.9	-5.1
24	1	5.3	23.7	4.0	17.9	3.8
25	1	4.0	17.9	2.0	8.9	-2.0
					19.8	Sample LAB Average
					MIN	-7.8
					MAX	96.3
					MEAN	22.8
					SD	27.1
					Transuranic DCGL$_W$	100

1 - Average LAB used to subtract from Gross Sample Activity

QC Measurements

18 QC	2.0	5.3	23.7	6.0	26.8	4.2
3 QC	2.0	7.3	32.6	2.7	12.1	13.2
					19.4	QC LAB Average
					MIN	4.2
					MAX	13.2
					MEAN	8.7
					Transuranic DCGL$_W$	100

1 - Average QC LAB used to subtract from Gross Sample Activity

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SURVEY UNIT 519-A-001
RSC - DATA SUMMARY

Manufacturer:	Eberline	Eberline	Eberline
Model:	SAC-4	SAC-4	SAC-4
Instrument ID#:	3	4	5
Serial #:	767	1164	833
Cal Due Date:	5/13/03	6/17/03	2/28/03
Analysis Date:	1/28/03	1/28/03	1/28/03
Alpha Eff. (c/d):	0.33	0.33	0.33
Alpha Bkgd (cpm)	0.0	0.1	0.1
Sample Time (min)	2	2	2
Bkgd Time (min)	10	10	10
MDC (dpm/100cm^2)	9.0	9.0	9.0

Sample Location Number	Instrument ID#	Gross Counts (cpm)	Net Activity (dpm/100 cm^2)
1	3	0	0.0
2	4	1	1.2
3	3	0	0.0
4	4	1	1.2
5	3	0	0.0
6	4	0	-0.3
7	5	0	-0.3
8	6	0	-0.6
9	3	0	0.0
10	4	0	-0.3
11	5	1	1.2
12	6	0	-0.6
13	3	0	0.0
14	4	0	-0.3
15	5	0	-0.3
16	6	0	-0.6
17	3	0	0.0
18	4	0	-0.3
19	5	0	-0.3
20	6	1	0.9
21	3	0	0.0
22	4	0	-0.3
23	5	0	-0.3
24	6	0	-0.6
25	3	0	0.0
		MIN	-0.6
		MAX	1.2
		MEAN	0.0
		SD	0.6
		Transuranic DCGL$_W$	20

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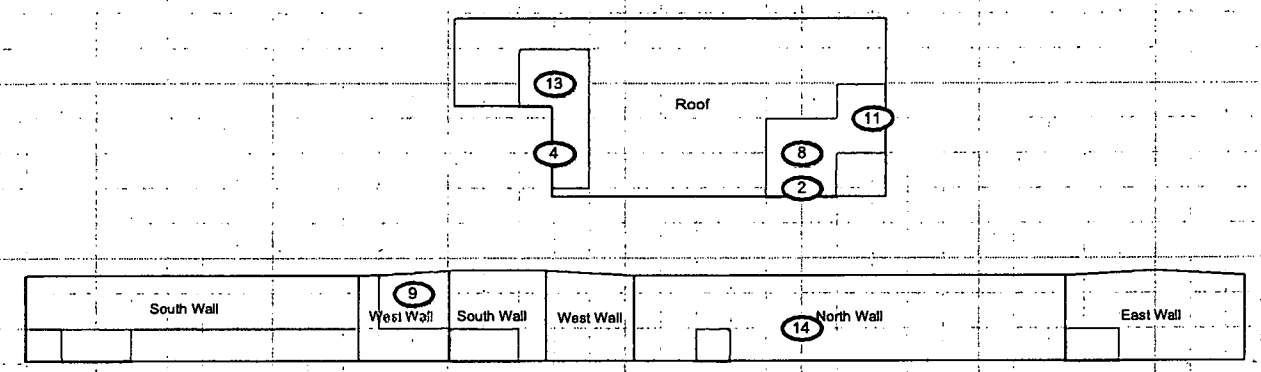
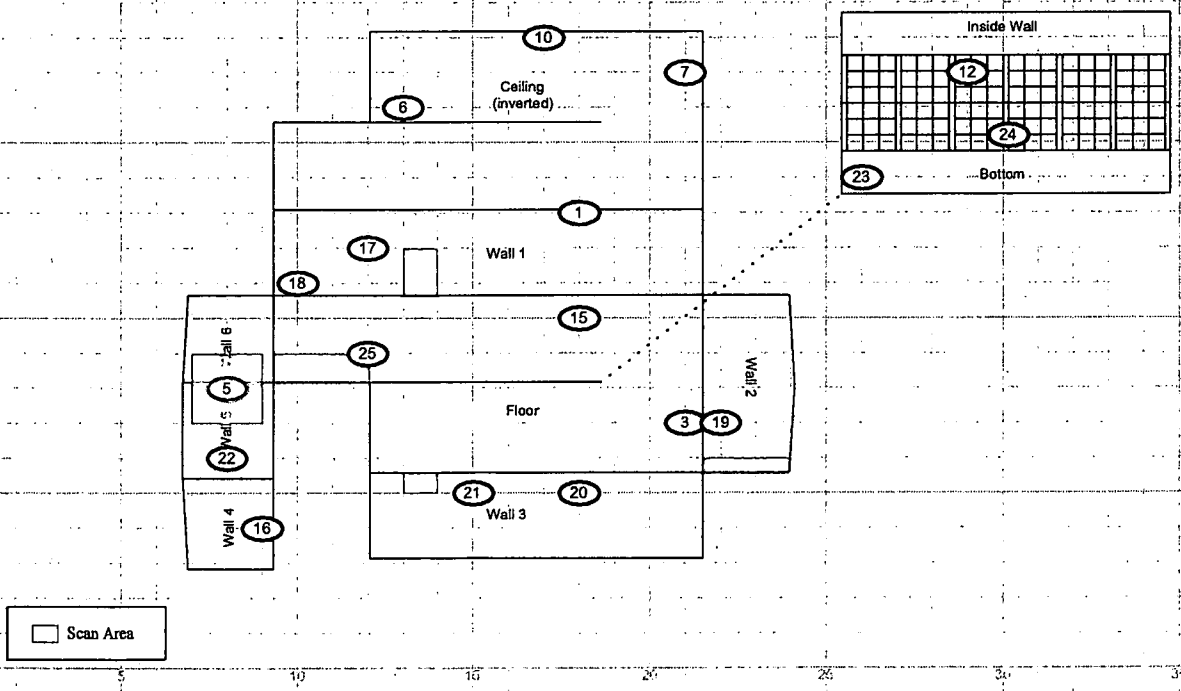
PRE-DEMOLITION SURVEY FOR B519

Survey Area: 3 **Survey Unit: 519-A-001** **Classification: 3**
Building: 519
Survey Unit Description: Interior - Exterior
Total Area: 195 sq. m. **Total Floor Area: 55 sq. m.**

Building 519 Exterior



Building 519 Interior



Scan Area

SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 25
0 METERS 8

1 inch = 18 feet 1 grid sq. = 1 sq. m.

Scan Survey Information
Survey Instrument ID #(s): 2
RCT ID #(s): 2

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707 Prepared for:

DynCorp
THE ART OF TECHNOLOGY

KAISER HILL

MAP ID: 03-0067\B519-Rad-Scn Jan. 3, 2003

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ATTACHMENT D

Chemical Data Summaries and Sample Maps

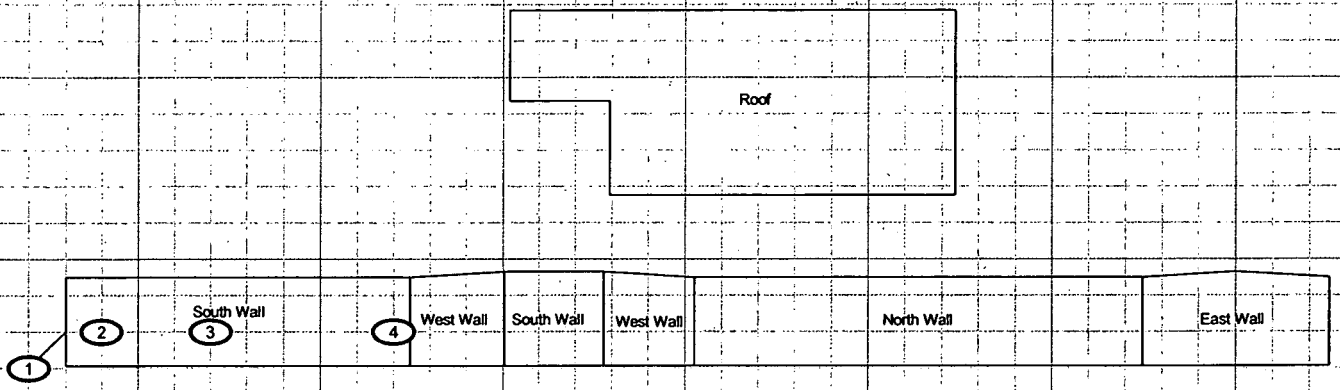
Asbestos Data Summary

Sample Number	Map Survey Point Location	Room	Material Sampled & Location	Analytical Results
519-01282003-315-201	1	Exterior	Wall caulking, south wall	10% Chrysotile
519-01282003-315-202	2	Exterior	Wall caulking, south wall	3% Chrysotile
519-01282003-315-203	3	Exterior	Window caulking, south wall	3% Chrysotile
519-01282003-315-204	4	Exterior	Window caulking, south wall	10% Chrysotile
519-01282003-315-205	5	Interior	Window caulking, partition wall	3% Chrysotile
519-01282003-315-206	6	Interior	Black tar wall plug and caulking, north wall	Black tar -- None Detected; Tan resinous caulking -- 4% Chrysotile

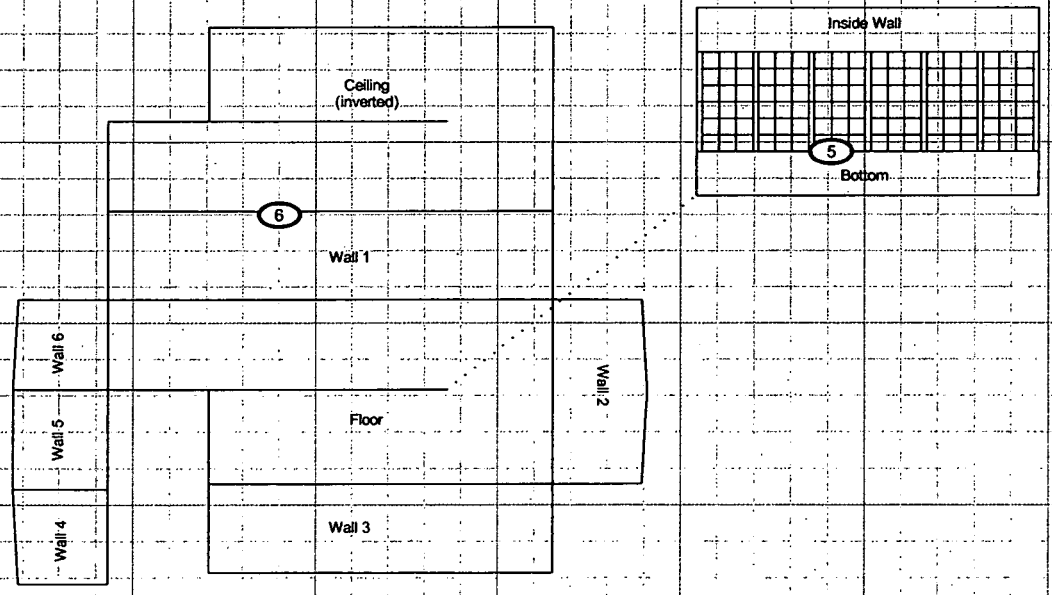
CHEMICAL SAMPLE MAP

Building: 519
Asbestos

Building 519 Exterior



Building 519 Interior



SURVEY MAP LEGEND

- Asbestos Sample Location
- Beryllium Sample Location
- Lead Sample Location
- RCRA/CERCLA Sample Location
- PCB Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 25

0 METERS 8

1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

DynCorp
THE ART OF TECHNOLOGY

Prepared for: KAISER HILL

MAP ID: 03-0067\B519-Chem-asb Jan. 28, 2003

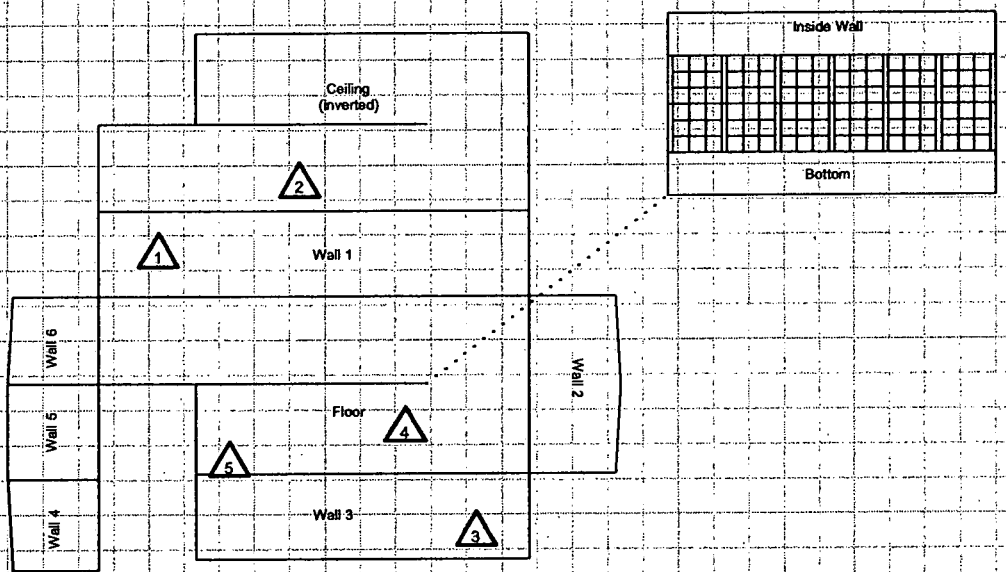
Beryllium Data Summary

Sample Number	Map Survey Point Location	Room	Sample Location	Result ($ug/100\ cm^2$)
519-01282003-315-101	1	Main	Top of horizontal steel wall brace, north wall	< 0.1
519-01282003-315-102	2	Main	Top of steel roof beam, main hallway	< 0.1
519-01282003-315-103	3	Main	Top of horizontal steel window sill, south wall	< 0.1
519-01282003-315-104	4	Main	On plywood floor	< 0.1
519-01282003-315-105	5	Main	On plywood floor	< 0.1

CHEMICAL SAMPLE MAP

Building: 519
Beryllium

Building 519 Interior



SURVEY MAP LEGEND

- Asbestos Sample Location
- Beryllium Sample Location
- Lead Sample Location
- RCRA/CERCLA Sample Location
- PCB Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

N

0 FEET 25

0 METERS 8

1 inch = 18 feet 1 grid sq. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-966-7707

DynCorp
THE ART OF TECHNOLOGY

Prepared for: KAISER HILL

MAP ID: 03-0067\B519-Chem-BE Jan. 28, 2003

ATTACHMENT E

Data Quality Assessment (DQA) Detail

DATA QUALITY ASSESSMENT (DQA)

VERIFICATION & VALIDATION OF RESULTS

V&V of the data confirm that appropriate quality controls are implemented throughout the sampling and analysis process, and that any substandard controls result in qualification or rejection of the data in question. The required quality controls and their implementation are summarized in a tabular, checklist format for each category of data – radiological surveys and chemical analyses (specifically asbestos and beryllium).

DQA criteria and results are provided in a tabular format for each suite of surveys or chemical analyses performed; the radiological survey assessment is provided in Table E-1, asbestos in E-2, and beryllium in E-3. A data completeness summary for all results is given in Table E-4.

All relevant Quality records supporting this report are maintained in the RISS Characterization Project Files. This report will be submitted to the CERCLA Administrative Record for permanent storage within 30 days of approval by the Regulators. All radiological data are organized into Survey Packages, which correlate to unique (MARSSIM) Survey Units. Chemical data are organized by RIN (Report Identification Number) and are traceable to the sample number and corresponding sample location.

Beta/gamma survey designs were not implemented for Building 519 based on the conservatism of the transuranic limits used as DCGLs in the unrestricted release decision process. Survey designs were implemented based on the transuranic limits used as DCGLs in the unrestricted release decision process. All survey results were evaluated against, and were less than the Transuranic $DCGL_w$ (100 dpm/100cm^2) and the Uranium $DCGL_w$ (5,000 dpm/100cm^2) unrestricted release limits.

Consistent with EPA's G-4 DQO process, the radiological survey design (for those survey units performed per PDS requirements) was optimized by checking actual measurement results (acquired during pre-demolition surveys) against model output with original estimates. Use of actual sample/survey (result) variances in the MARSSIM DQO model confirms that an adequate number of surveys were acquired.

SUMMARY

In summary, the data presented in this report have been verified and validated relative to the quality requirements and project decisions as stated in the original DQOs. All data are useable based on qualifications stated herein and are considered satisfactory without qualification. All media surveyed and sampled yielded results less than their associated action levels and with acceptable uncertainties.

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Based upon an independent review of the radiological data, it is determined that the original project DQOs satisfied MARSSIM guidance. All facility contamination levels were below applicable unrestricted release levels. Minimum survey requirements were met, sampling/survey protocol was performed in accordance with applicable procedures, survey units were properly designed and bounded, and instrument performance and calibration was verified as acceptable. All results meet the PDS unrestricted release criteria.

Chain of Custody was intact; documentation was complete, hold times were acceptable (where applicable,) and packaging integrity/custody seals were maintained throughout the sampling/analysis process. Level 2 Isolation Controls have been posted to prevent the inadvertent introduction of contamination into the facility. On this basis, Building 519 meets the unrestricted release criteria with the confidences stated herein.

Table E-1 V&V of Radiological Surveys For Building 519

V&V CRITERIA, RADIOLGICAL SURVEYS		K-H RSP 16.00 Series MARSSIM (NUREG-1575)		
QUALITY REQUIREMENTS				
	Parameters	Measure	Frequency	COMMENTS
ACCURACY	initial calibrations	90%<x<110%	≥1	Multi-point calibration through the measurement range encountered in the field; programmatic records.
	daily source checks	80%<x<120%	≥1/day	Performed daily/within range.
	local area background: Field	typically < 10 dpm	≥1/day	All local area backgrounds were within expected ranges (i.e., no elevated anomalies.)
PRECISION	field duplicate measurements for TSA	≥5% of real survey points	≥10% of reals	N/A
REPRESENTATIVENESS	MARSSIM methodology: Survey Unit 519-A-001.	statistical and biased	NA	Random w/ statistical confidence.
	Survey Maps	NA	NA	Random and biased measurement locations controlled/mapped to ±1m.
	Controlling Documents (Characterization Pkg; RSPs)	qualitative	NA	Refer to the Characterization Package (planning document) for field/sampling procedures (located in Project files); thorough documentation of the planning, sampling/analysis process, and data reduction into formats.
COMPARABILITY	units of measure	dpm/100cm^2	NA	Use of standardized engineering units in the reporting of measurement results.
COMPLETENESS	Plan vs. Actual surveys usable results vs. unusable	>95% >95%	NA	See Table E-4 for details.
SENSITIVITY	detection limits	TSA: ≤50 dpm/100cm^2 RA: ≤10 dpm/100cm^2	all measures	MDAs ≤ ½ DCGL$_w$ per MARSSIM guidelines.

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Table E-2 V&V of Asbestos Results - Building 519

V&V CRITERIA, CHEMICAL ANALYSES		DATA PACKAGE		
ASBESTOS	METHOD: EPA 600/R-93/116	LAB ---->	Reservoirs Environmental, Inc	
QUALITY REQUIREMENT		RIN ---->	03Z0832	
		Measure	Frequency	COMMENTS
ACCURACY	Calibrations: Initial/continuing	below detectable amounts	≥1	Semi-quantitative, per (microscopic) visual estimation.
PRECISION	Actual Number Sampled LCSD Lab duplicates	all below detectable amounts	≥ 6 samples	Semi-quantitative, per (microscopic) visual estimation.
REPRESENTATIVENESS	COC	Qualitative	NA	Chain-of-Custody intact: completed paperwork, containers w/ custody seals.
	Hold times/preservation	Qualitative	NA	N/A
	Controlling Documents (Plans, Procedures, maps, etc.)	Qualitative	NA	See original Chemical Characterization Plan (planning document); for field/sampling procedures (located in project file;) thorough documentation of the planning, sampling/analysis process, and data reduction into formats.
COMPARABILITY	Measurement Units	% by bulk volume	NA	Use of standardized engineering units in the reporting of measurement results.
COMPLETENESS	Plan vs. Actual samples Usable results vs. unusable	Qualitative	NA	See Table E-4; final number of samples at Certified Inspector's discretion.
SENSITIVITY	Detection limits	<1% by volume	all measures	N/A

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Table E-3 V&V of Beryllium Results - Building 519

V&V CRITERIA, CHEMICAL ANALYSES		DATA PACKAGE		
BERYLLIUM	Prep: NMAM 7300 METHOD: OSHA ID-125G	LAB ---->	Johns Manville, Littleton, Co.	
QUALITY REQUIREMENTS		RIN ---->	03Z0833	
		Measure	Frequency	COMMENTS
ACCURACY	Calibrations Initial	linear calibration	≥1	No qualifications significant enough to change project decisions, i.e., classification of a Type 1 facility confirmed. All results were below associated action levels.
	Continuing	80%<%R<120%	≥1	
	LCS/MS	80%<%R<120%	≥1	
	Blanks - lab & field	<MDL	≥1	
	interference check std (ICP)	NA	NA	
PRECISION	LCSD	80%<%R<120% (RPD<20%)	≥1	
	field duplicate	all results < RL	≥1	
REPRESENTATIVENESS	COC	Qualitative	NA	
	hold times/preservation	Qualitative	NA	
	Controlling Documents (Plans, Procedures, maps, etc.)	Qualitative	NA	
COMPARABILITY	measurement units	ug/100cm^2	NA	
COMPLETENESS	Plan vs. Actual samples usable results vs. unusable	>95% >95%	NA	
SENSITIVITY	detection limits	MDL of 0.012 ug/100cm^2	all measures	

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Table E-4 Data Completeness Summary For Building 519

ANALYTE	Building/Area /Unit	Sample Number Planned (Real & QC)[A]	Sample Number Taken (Real & QC)	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc.)
Asbestos	B519 (interior and exterior)	6 biased	6 biased (2 interior/4 exterior)	ACM present, all results > 1% by volume (6 locations)	40 CFR763.86; 5 CCR 1001-10; EPA 600/R-93/116 RIN03Z0832 ACM identified at all 6 locations greater than 1% by volume: range of 3% to 10% Chrysotile. The ACM will be managed in accordance with CDPHE Regulation 8 during D&D activities.
Beryllium	B519 (interior)	5 biased (interior)	5 biased (interior)	No beryllium contamination found at any location, all results below the regulatory limit	OSHA ID-125G – RIN02D1457 RIN03Z0833 No results above action level (0.2ug/100cm^2) or investigative level (0.1 ug/100cm^2).
Radiological	Survey Area 4 Survey Unit: 519-A-001 B519 (interior and exterior)	25 α TSA (15 random/10 biased) and 25 α Smears (15 random/10 biased) 10 α TSA and 10 α Smears (equipment) 2 QC TSA 5% scan	25 α TSA (15 random/10 biased) and 25 α Smears (15 random/10 biased) 2 QC TSA 5% scan	No elevated contamination at any location; all values below PDS unrestricted release levels	Transuranic and/or Uranium DCGLs as applicable. The requirement for Equipment surveys was dropped because no equipment was present for surveys.

40/40